



SEQUENCE LISTING

<110> Zang, Jingwu Z.

Ho, Walter Kowk Keung

Zhang, Dongqing

Sun, Wei

<120> T Cell Receptor CDR3 Sequence and Methods for
Detecting and Treating Rheumatoid Arthritis

<130> D6622

<140> US 10/612,468

<141> 2003-07-02

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<221> CDS

<223> part of the complementary determining region-3 (CDR3)
in the V(16 family (BV16 gene) of T cell receptors
(TCR) in patients with rheumatoid arthritis (RA)

<400> 1

agccaagctg acgggaccca t

21

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<223> part of the complementary determining region-3
(CDR3) in the V(14 family (BV14 gene) of TCR in
patients with RA

<400> 2

agttccgggg gcagtctgtt c

21

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<212> PRT
<213> *Homo sapiens*

<220>
<221> PEPTIDE
<223> conserved amino acid sequence derived from CDR3 of TCR beta-chain BV16 in patients with RA

<400> 3
Ser Gln Ala Asp Gly Thr His
1 5

<210> 4
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<213> *Homo sapiens*

<220>
<221> PEPTIDE
<223> conserved amino acid sequence derived from CDR3 of TCR beta-chain BV14 in patients with RA

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Ser Ser Gly Gly Ser Leu Phe
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<210> 5
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<213> *Homo sapiens*

<220>
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<210> 6
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<223> amino acid sequence of human (beta-chain variable
region V(14 of T cell receptors

<400> 6

Met	Gly	Pro	Gln	Leu	Leu	Gly	Tyr	Val	Val	Leu	Cys	Leu	Leu	Gly
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Ala	Gly	Pro	Leu	Glu	Ala	Gln	Val	Thr	Gln	Asn	Pro	Arg	Tyr	Leu
				20					25					30
Ile	Thr	Val	Thr	Gly	Lys	Lys	Leu	Thr	Val	Thr	Cys	Ser	Gln	Asn
				35					40					45
Met	Asn	His	Glu	Tyr	Met	Ser	Trp	Tyr	Arg	Gln	Asp	Pro	Gly	Leu
				50					55					60
Gly	Leu	Arg	Gln	Ile	Tyr	Tyr	Ser	Met	Asn	Val	Glu	Val	Thr	Asp
				65					70					75
Lys	Gly	Asp	Val	Pro	Glu	Gly	Tyr	Lys	Val	Ser	Arg	Lys	Glu	Lys
				80					85					90
Arg	Asn	Phe	Pro	Leu	Ile	Leu	Glu	Ser	Pro	Ser	Pro	Asn	Gln	Thr
				95					100					105
Ser	Leu	Tyr	Phe	Cys	Ala	Ser	Ser							
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<210> 7

<211> 96

<212> PRT

<213> *Homo sapiens*

<220>

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<223> amino acid sequence of human (beta-chain variable
region V(16 of T cell receptors

<400> 7

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Lys	Gly	Gln	Thr	Val	Thr	Leu	Arg	Cys	Asp	Pro	Ile	Ser	Gly	His
				20					25					30
Asp	Asn	Leu	Tyr	Trp	Tyr	Arg	Arg	Val	Met	Gly	Lys	Glu	Ile	Lys
				35					40					45
Phe	Leu	Leu	His	Phe	Val	Lys	Glu	Ser	Lys	Gln	Asp	Glu	Ser	Gly
				50					55					60
Met	Pro	Asn	Asn	Arg	Phe	Leu	Ala	Glu	Arg	Thr	Gly	Gly	Thr	Tyr
				65					70					75
Ser	Thr	Leu	Lys	Val	Gln	Pro	Ala	Glu	Leu	Glu	Asp	Ser	Gly	Val
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Tyr	Phe	Cys	Ala	Ser	Ser									
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<210> 9
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<210> 10
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<220>
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<210> 11
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<210> 12
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<400> 12
tcgagatatc tagtcaaaag gacg 24

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<210> 14
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<210> 16
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<210> 17
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<220>
<223> reverse primer specific for TCR BV5 used in real-time PCR analysis

<400> 17
agcaccaagg cgctcacatt ca 22

<210> 18
<211> 21
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<220>
<223> forward primer specific for TCR BV6 used in real-time PCR analysis

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ctcaggtgtg atccaaatttc a 21

<210> 19
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<220>
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PCR analysis

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<210> 20
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<220>
<223> forward primer specific for TCR BV7 used in real-time PCR analysis

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<210> 21
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<220>
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tggctgcagg gcgtgttaggt g 21

<210> 22
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<210> 23
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<220>
<223> reverse primer specific for TCR BV8 used in real-time
PCR analysis

<400> 23
gagtcctcgg gttctgaggg c 21

<210> 24
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<220>
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PCR analysis

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ccaaaatacc tggcacaca g 21

<210> 25
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<212> DNA
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<220>
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PCR analysis

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ccagggatt gatgtgaaga tt 22

<210> 26
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<220>
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PCR analysis

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acctagactt ctggtaaaag ca 22

<210> 27
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<220>
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PCR analysis

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ggactggatc tccaaaggta c a 21

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PCR analysis

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ttatagggac aggaaagaag atc 23

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<220>
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PCR analysis

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caagacacaa gatcacagag aca 23

<210> 31
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<210> 33

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<223> reverse primer specific for TCR BV13 used in real-time PCR analysis

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<220>
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<210> 40
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agacacacctgg tcaggaggag g 21

<210> 43
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tgccgaatct cctcgacta c 21

<210> 44
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ccaggacatt tggtaaaagg aaaa 24

<210> 45
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<220>
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<400> 45
cagtgcgtg tctcccggtt c 21

<210> 46
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<220>
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<400> 46
gaccctggtg cagcctgtg 19

<210> 47
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<220>
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<210> 48
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cccagatata agattacaga gaaa 24

<210> 49
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<400> 49
ctggatcttg agagtggagt c 21

<210> 50
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<220>
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<400> 50
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<210> 51
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<400> 51
gtcctccagc tttgtggacc g 21

<210> 52
<211> 21
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<220>
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aagagggaaa cagccactct g 21

<210> 53
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<220>
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<400> 53
cagctccaag gagctcatgt t 21

<210> 54
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<220>
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PCR analysis

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<210> 55
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<220>
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<400> 55
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<210> 56
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<220>
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<400> 56
aaaacatctt gtcagagggg aa 22

<210> 57
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<220>
<223> reverse primer specific for TCR BV25 used in real-time PCR analysis

<400> 57
tgaatcctca agcttcgtag c 21

<210> 58
<211> 19
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<220>
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<400> 58
cagcgccctt gtgttgatg 19

<210> 59
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<220>
<223> reverse primer specific for TCR BC used in real-time PCR analysis

<400> 59
aagcgctggc aaaagaagaa 20

<210> 60
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<213> Artificial Sequence

<220>
<223> BC primer used for run-off reactions

<400> 60
cgacctcggg tggaaaca 18

<210> 61
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> FAM (expand)-labeled BC primer used for run-off reactions

<400> 61
cacagcgacc tcgggtggg 19

<210> 62
<211> 21
<212> DNA
<213> Artificial Sequence

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<400> 62
actgtgagtc tggtgcccttg t 21

<210> 63
<211> 24
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acaacggtta acttggtccc cgaa 24

<210> 64
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<400> 64
ggtcctctac aacagtgagc caac 24

<210> 65
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<210> 66
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<400> 66	
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tgtcacagtg agcctggtcc catt	24
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<210> 69	
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<210> 72
<211> 18
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<400> 72
tcgagcacca ggagccgc 18

<210> 73
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<220>
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<400> 73
ctgctgccgg ccccgaaagt c 21

<210> 74
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<400> 74
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<210> 75
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<213> *Homo sapiens*

<220>

<221> DOMAIN

<223> CDR3 amino acid sequence of BV16 clonotype derived
from ST specimen of RA patients

<400> 75

Tyr Phe Cys Ala Ser Ser Gln Asp Ser Gly Gly Gly Gly Glu Gln
1 5 10 15
Phe Phe Gly Pro Gly
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<210> 76

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<221> CDS

<223> CDR3 nucleic acid sequence of BV16 clonotype derived
from ST specimen of RA patients

<400> 76

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<210> 77

<211> 20

<212> PRT

<213> *Homo sapiens*

<220>

<221> DOMAIN

<223> CDR3 amino acid sequence of BV16 clonotype derived
from ST specimen of RA patients

<400> 77

Tyr Phe Cys Ala Ser Ser Arg Leu Gly Gln Gly Tyr Asn Glu Gln
1 5 10 15
Phe Phe Gly Pro Gly
20

<210> 78

<211> 60

<212> DNA

<213> Artificial Sequence

<220>
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<223> CDR3 nucleic acid sequence of BV16 clonotype derived
from ST specimen of RA patients

<400> 78
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<210> 79
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<223> CDR3 amino acid sequence of BV16 clonotype derived
from ST specimen of RA patient

<400> 79
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Phe Phe Gly Pro Gly
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<223> CDR3 nucleic acid sequence of BV16 clonotype derived
from ST specimen of RA patients

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<210> 81
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<213> *Homo sapiens*

<220>
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<223> CDR3 amino acid sequence of BV16 clonotype derived from ST specimen of RA patient

<400> 81
Tyr Phe Cys Ala Ser Ser Gln Gly Thr Ser Gly Ile Thr Glu Gln
1 5 10 15
Phe Phe Gly Pro Gly
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<210> 82

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<221> CDS

<223> CDR3 nucleic acid sequence of BV16 clonotype derived from ST specimen of RA patients

<400> 82

tatttctgtg ccagcagcca gggactagc gggatcaactg agcagttctt 50
cgggccagga 60

<210> 83

<211> 20

<212> PRT

<213> *Homo sapiens*

<220>

<221> DOMAIN

<223> CDR3 amino acid sequence of BV16 clonotype derived from ST specimen of RA patient

<400> 83

Tyr Phe Cys Ala Ser Ser Gln Leu Ala Gly Pro Tyr Asn Glu Gln
1 5 10 15
Phe Phe Gly Pro Gly
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<210> 84

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<221> CDS

<223> CDR3 nucleic acid sequence of BV16 clonotype derived
from ST specimen of RA patients

<400> 84
tatttctgtg ccagcagcca gctagcggga ccctacaatg agcagttctt 50
cgggccagga 60

<210> 85
<211> 20
<212> PRT
<213> *Homo sapiens*

<220>
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<223> CDR3 amino acid sequence of BV16 clonotype derived
from ST specimen of RA patient

<400> 85
Tyr Phe Cys Ala Ser Ser Leu Leu Gly Thr Val Ser Tyr Glu Gln
1 5 10 15
Phe Phe Gly Pro Gly
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<210> 86
<211> 60
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<220>
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<223> CDR3 nucleic acid sequence of BV16 clonotype derived
from ST specimen of RA patients

<400> 86
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cgggccaggc 60

<210> 87
<211> 20
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV16 clonotype derived
from ST specimen of RA patient

<400> 87
Tyr Phe Cys Ala Ser Pro Leu Gly Thr Ala Leu Ser Tyr Glu Gln
1 5 10 15
Phe Phe Gly Pro Gly
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<210> 88
<211> 60
<212> DNA
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<220>
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<223> CDR3 nucleic acid sequence of BV16 clonotype derived
from ST specimen of RA patients

<400> 88
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cgggccgggc 60

<210> 89
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<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV16 clonotype derived
from ST specimen of RA patient

<400> 89
Tyr Phe Cys Ala Ser Ser Gln Ala Asp Gly Thr His Tyr Glu Gln
1 5 10 15
Phe Phe Gly Pro Gly
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<210> 90
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<212> DNA
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<220>
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<223> CDR3 nucleic acid sequence of BV16 clonotype derived
from ST specimen of RA patients

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cgggcccgggc 60

<210> 91
<211> 20
<212> PRT
<213> *Homo sapiens*

<220>
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<223> CDR3 amino acid sequence of BV16 clonotype derived from ST specimen of RA patient

<400> 91
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1 5 10 15
Phe Phe Gly Pro Gly
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<210> 92
<211> 60
<212> DNA
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<220>
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<223> CDR3 nucleic acid sequence of BV16 clonotype derived from ST specimen of RA patients

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cgggcccgggc 60

<210> 93
<211> 20
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
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<400> 93
Tyr Phe Cys Ala Ser Ser Gln Ala Asp Gly Thr His Tyr Glu Gln
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Phe Phe Gly Pro Gly
20

<210> 94
<211> 60
<212> DNA
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<220>
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<223> CDR3 nucleic acid sequence of BV16 clonotype derived
from ST specimen of RA patients

<400> 94
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cgggcccgggc 60

<210> 95
<211> 20
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV16 clonotype derived
from ST specimen of RA patient

<400> 95
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` 5 10 15
Phe Phe Gly Pro Gly
20

<210> 96
<211> 60
<212> DNA
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<220>
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<223> CDR3 nucleic acid sequence of BV16 clonotype derived
from ST specimen of RA patients

<400> 96
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cgggcccgggc 60

<210> 97
<211> 20
<212> PRT
<213> *Homo sapiens*

<220>
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<223> CDR3 amino acid sequence of BV16 clonotype derived from ST specimen of RA patient

<400> 97
Tyr Phe Cys Ala Ser Ser Leu Leu Gly Thr Val Ser Tyr Glu Gln
1 5 10 15
Phe Phe Gly Pro Gly
20

<210> 98
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
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<223> CDR3 nucleic acid sequence of BV16 clonotype derived from ST specimen of RA patients

<400> 98
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cgggccggc 60

<210> 99
<211> 18
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV16 clonotype derived from ST specimen of RA patient

<400> 99
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1 5 10 15
Gly Gln Gly

<210> 100
<211> 54

<212> DNA
<213> Artificial Sequence

<220>
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<223> CDR3 nucleic acid sequence of BV16 clonotype derived from ST specimen of RA patients

<400> 100
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aggc 54

<210> 101
<211> 18
<212> PRT
<213> *Homo sapiens*

<220>
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<223> CDR3 amino acid sequence of BV16 clonotype derived from ST specimen of RA patient

<400> 101
Tyr Phe Cys Ala Ser Arg Ala Ser Arg Tyr Thr Glu Ala Phe Phe
1 5 10 15
Gly Gln Gly

<210> 102
<211> 54
<212> DNA
<213> Artificial Sequence

<220>
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<223> CDR3 nucleic acid sequence of BV16 clonotype derived from ST specimen of RA patients

<400> 102
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aggc 54

<210> 103
<211> 18
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV16 clonotype derived
from ST specimen of RA patient

<400> 103
Tyr Phe Cys Ala Ser Arg Ala Ser Arg Tyr Thr Glu Ala Phe Phe
1 5 10 15
Gly Gln Gly

<210> 104
<211> 54
<212> DNA
<213> Artificial Sequence

<220>
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<223> CDR3 nucleic acid sequence of BV16 clonotype derived
from ST specimen of RA patients

<400> 104
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aggc 54

<210> 105
<211> 18
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV16 clonotype derived
from ST specimen of RA patient

<400> 105
Tyr Phe Cys Ala Ser Ser Thr Gly Val Asn Thr Glu Ala Phe Phe
1 5 10 15
Gly Gln Gly

<210> 106
<211> 54
<212> DNA
<213> Artificial Sequence

<220>
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<223> CDR3 nucleic acid sequence of BV16 clonotype derived

from ST specimen of RA patients

<400> 106

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aggc 54

<210> 107

<211> 18

<212> PRT

<213> *Homo sapiens*

<220>

<221> DOMAIN

<223> CDR3 amino acid sequence of BV16 clonotype derived
from ST specimen of RA patient

<400> 107

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1 5 10 15
Gly Gln Gly

<210> 108

<211> 54

<212> DNA

<213> Artificial Sequence

<220>

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<223> CDR3 nucleic acid sequence of BV16 clonotype derived
from ST specimen of RA patients

<400> 108

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aggc 54

<210> 109

<211> 18

<212> PRT

<213> *Homo sapiens*

<220>

<221> DOMAIN

<223> CDR3 amino acid sequence of BV16 clonotype derived
from ST specimen of RA patient

<400> 109
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1 5 10 15
Gly Gln Gly

<210> 110
<211> 54
<212> DNA
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<220>
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from ST specimen of RA patients

<400> 110
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aggc 54

<210> 111
<211> 18
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV16 clonotype derived
from ST specimen of RA patient

<400> 111
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1 5 10 15
Gly Gln Gly

<210> 112
<211> 54
<212> DNA
<213> Artificial Sequence

<220>
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<223> CDR3 nucleic acid sequence of BV16 clonotype derived
from ST specimen of RA patients

<400> 112
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aggc 54

<210> 113
<211> 20
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 113
Tyr Phe Cys Ala Ser Ser Pro Thr Arg Asp Arg Gly Asn Glu Gln
1 5 10 15
Phe Phe Gly Pro Gly
20

<210> 114
<211> 63
<212> DNA
<213> Artificial Sequence

<220>
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<223> CDR3 nucleic acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 114
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cttcgggcca gga 63

<210> 115
<211> 22
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 115
Tyr Phe Cys Ala Ser Ser Ser Pro Ile Ala Gly Ser Ser Tyr Asn
1 5 10 15
Glu Gln Phe Phe Gly Pro Gly
20

<210> 116
<211> 63
<212> DNA
<213> Artificial Sequence

<220>
<221> CDS
<223> CDR3 nucleic acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 116
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cttcgggcca gga 63

<210> 117
<211> 20
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 117
Tyr Phe Cys Ala Ser Ser Phe Trp Ala Pro Thr Asp Asn Glu Gln
1 5 10 15
Phe Phe Gly Pro Gly
20

<210> 118
<211> 63
<212> DNA
<213> Artificial Sequence

<220>
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<223> CDR3 nucleic acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 118
tacttctgtg ccagcagttt ctgggcccct acggacaata atgagcagtt 50
cttcgggcca gga 63

<210> 119
<211> 21
<212> PRT

<213> *Homo sapiens*

<220>

<221> DOMAIN

<223> CDR3 amino acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 119

Tyr Phe Cys Ala Ser Ser Ser Ser Pro Thr Ser Tyr Asn Glu
1 5 10 15
Gln Phe Phe Gly Pro Gly
20

<210> 120

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<221> CDS

<223> CDR3 nucleic acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 120

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cgggccagga 60

<210> 121

<211> 20

<212> PRT

<213> *Homo sapiens*

<220>

<221> DOMAIN

<223> CDR3 amino acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 121

Tyr Phe Cys Ala Ser Ser Pro Arg Glu Gly Leu Leu Asn Glu Gln
1 5 10 15
Phe Phe Gly Pro Gly
20

<210> 122

<211> 63

<212> DNA

<213> Artificial Sequence

<220>
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<400> 122
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cttcgggcca gga 63

<210> 123
<211> 21
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 123
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1 5 10 15
Gln Phe Phe Gly Pro Gly
20

<210> 124
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
<221> CDS
<223> CDR3 nucleic acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 124
taccttctgtg ccagcagtcc ctggacttagc gggagtggtg agcagttctt 50
cgggccagga 60

<210> 125
<211> 19
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 125
Tyr Phe Cys Ala Ser Ser Leu Arg Thr Arg Phe Tyr Glu Gln Tyr
1 5 10 15
Phe Gly Pro Gly

<210> 126
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<221> CDS
<223> CDR3 nucleic acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 126
tac ttctgtg ccagcagttt aaggacacgc ttctacgagc agttcttcgg 50
gccagga 57

<210> 127
<211> 20
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 127
Tyr Phe Cys Ala Ser Ser Leu Thr Ser Gly Arg Gln Tyr Glu Gln
1 5 10 15
Tyr Phe Gly Pro Gly
20

<210> 128
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
<221> CDS

<223> CDR3 nucleic acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 128

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cgggccagga 60

<210> 129

<211> 20

<212> PRT

<213> *Homo sapiens*

<220>

<221> DOMAIN

<223> CDR3 amino acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 129

Tyr Phe Cys Ala Ser Ser Ser Gly Gly Ser Leu Phe Tyr Glu Gln
1 5 10 15
Tyr Phe Gly Pro Gly
20

<210> 130

<211> 60

<212> DNA

<213> Artificial Sequence

<220>

<221> CDS

<223> CDR3 nucleic acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 130

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cgggccagga 60

<210> 131

<211> 20

<212> PRT

<213> *Homo sapiens*

<220>

<221> DOMAIN

<223> CDR3 amino acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 131
Tyr Phe Cys Ala Ser Ser Leu Ser Val Gly Ala Thr Tyr Glu Gln
1 5 10 15
Tyr Phe Gly Pro Gly
20

<210> 132
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
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<223> CDR3 nucleic acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 132
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cgggccagga 60

<210> 133
<211> 20
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 133
Tyr Phe Cys Ala Ser Ser Ser Gly Gly Ser Leu Phe Tyr Glu Gln
1 5 10 15
Tyr Phe Gly Pro Gly
20

<210> 134
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
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<223> CDR3 nucleic acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 134
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cgggccagga 60

<210> 135
<211> 20
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 135
Tyr Phe Cys Ala Ser Ser Pro Ser Ile Ser Ser His Tyr Glu Gln
1 5 10 15
Tyr Phe Gly Pro Gly
20

<210> 136
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
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<223> CDR3 nucleic acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 136
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cgggccagga 60

<210> 137
<211> 19
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 137
Tyr Phe Cys Ala Ser Ser Arg Asp Gly Val Ser Tyr Glu Gln Tyr
1 5 10 15
Phe Gly Pro Gly

<210> 138
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
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<223> CDR3 nucleic acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 138
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gccagga 57

<210> 139
<211> 19
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 139
Tyr Phe Cys Ala Ser Ser Leu Ser Ser Thr Gly Arg Glu Gln Tyr
1 5 10 15
Phe Gly Pro Gly

<210> 140
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
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<223> CDR3 nucleic acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 140
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gccgggc 57

<210> 141
<211> 20
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 141
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1 5 10 15
Tyr Phe Gly Pro Gly
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<210> 142
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
<221> CDS
<223> CDR3 nucleic acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 142
tacttctgtg ccagcagttt atcgtttaga ctagactacg agcagttctt 50
cgggccagga 60

<210> 143
<211> 20
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 143
Tyr Phe Cys Ala Ser Ser Pro Ser Gly Gln Gly Ser Tyr Glu Gln
1 5 10 15
Tyr Phe Gly Pro Gly
20

<210> 144
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
<221> CDS
<223> CDR3 nucleic acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 144
tacttctgtg ccagcagtcc gtcggacag gggcctacg agcagttctt 50
cgggccagga 60

<210> 145
<211> 20
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 145
Tyr Phe Cys Ala Ser Ser Phe Gly Thr Val Leu Ser Tyr Glu Gln
1 5 10 15
Tyr Phe Gly Pro Gly
20

<210> 146
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
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<400> 146
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cgggccagga 60

<210> 147
<211> 20
<212> PRT

<213> *Homo sapiens*

<220>

<221> DOMAIN

<223> CDR3 amino acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 147

Tyr Phe Cys Ala Ser Ser Pro Arg Leu Ala Gly Asp Lys Glu Gln
1 5 10 15
Tyr Phe Gly Pro Gly
20

<210> 148

<211> 61

<212> DNA

<213> Artificial Sequence

<220>

<221> CDS

<223> CDR3 nucleic acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 148

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tcggggccggg c 61

<210> 149

<211> 20

<212> PRT

<213> *Homo sapiens*

<220>

<221> DOMAIN

<223> CDR3 amino acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 149

Tyr Phe Cys Ala Ser Ser Leu Ser Ala Arg Thr Thr Tyr Glu Gln
1 5 10 15
Tyr Phe Gly Pro Gly
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<210> 150

<211> 60

<212> DNA

<213> Artificial Sequence

<220>
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<400> 150
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cgggccagga 60

<210> 151
<211> 19
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 151
Tyr Phe Cys Ala Ser Ser Leu Ile Gly Gly Asn Glu Lys Leu Phe
1 5 10 15
Leu Gly Ser Gly

<210> 152
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<221> CDS
<223> CDR3 nucleic acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 152
tacttctgtg ccagcagttt gatagggggc aatgaaaaac tgtttttgg 50
cagtggaa 57

<210> 153
<211> 18
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV14 clonotype derived

from ST specimen of RA patients

<400> 153

Tyr Phe Cys Ala Ser Ser Leu Ser Gln Glu Thr Glu Ala Phe Phe
1 5 10 15
Gly Gln Gly

<210> 154

<211> 53

<212> DNA

<213> Artificial Sequence

<220>

<221> CDS

<223> CDR3 nucleic acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 154

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ggc 53

<210> 155

<211> 19

<212> PRT

<213> *Homo sapiens*

<220>

<221> DOMAIN

<223> CDR3 amino acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 155

Tyr Phe Cys Ala Ser Arg Ala Gly Thr Gly Phe Glu Lys Leu Phe
1 5 10 15

Phe Gly Ser Gly

<210> 156

<211> 54

<212> DNA

<213> Artificial Sequence

<220>

<221> CDS

<223> CDR3 nucleic acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 156
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tgga 54

<210> 157
<211> 18
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 157
Tyr Phe Cys Ala Ser Ser Leu Ser Gln Asn Thr Glu Ala Phe Phe
1 5 10 15
Gly Gln Gly

<210> 158
<211> 54
<212> DNA
<213> Artificial Sequence

<220>
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<223> CDR3 nucleic acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 158
tacttctgtg ccagcagtct gtcacagaac actgaagctt tctttggaca 50
aggc 54

<210> 159
<211> 18
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 159
Tyr Phe Cys Ala Ser Ser Pro Arg Val Asn Thr Glu Ala Phe Phe
1 5 10 15
Gly Gln Gly

<210> 160
<211> 53
<212> DNA
<213> Artificial Sequence

<220>
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<400> 160
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ggc 53

<210> 161
<211> 18
<212> PRT
<213> *Homo sapiens*

<220>
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<223> CDR3 amino acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 161
Tyr Phe Cys Ala Ser Ser Leu Ser Gln Glu Thr Glu Ala Phe Phe
1 5 10 15
Gly Gln Gly

<210> 162
<211> 53
<212> DNA
<213> Artificial Sequence

<220>
<221> CDS
<223> CDR3 nucleic acid sequence of BV14 clonotype derived from ST specimen of RA patients

<400> 162
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ggc 53

<210> 163
<211> 18
<212> PRT

<213> *Homo sapiens*

<220>

<221> Domain

<223> CDR3 amino acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 163

Tyr Phe Cys Ala Ser Ser Leu Gly Arg Asn Thr Glu Ala Phe Phe
1 5 10 15
Gly Gln Gly

<210> 164

<211> 54

<212> DNA

<213> Artificial Sequence

<220>

<221> CDS

<223> CDR3 nucleic acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 164

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aggc 54

<210> 165

<211> 18

<212> PRT

<213> *Homo sapiens*

<220>

<221> DOMAIN

<223> CDR3 amino acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 165

Tyr Phe Cys Ala Ser Ser Ser Arg Gly Tyr Thr Glu Ala Phe Phe
1 5 10 15
Gly Gln Gly

<210> 166

<211> 54

<212> DNA

<213> Artificial Sequence

<220>
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<223> CDR3 nucleic acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 166
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aggc 54

<210> 167
<211> 18
<212> PRT
<213> *Homo sapiens*

<220>
<221> DOMAIN
<223> CDR3 amino acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 167
Tyr Phe Cys Ala Ser Ser Ser Leu Ala Thr Ala Glu Ala Phe Phe
1 5 10 15
Gly Gln Gly

<210> 168
<211> 54
<212> DNA
<213> Artificial Sequence

<220>
<221> CDS
<223> CDR3 nucleic acid sequence of BV14 clonotype derived
from ST specimen of RA patients

<400> 168
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